



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

SCIENCE

FRIDAY, SEPTEMBER 3, 1915

RECENT STUDIES ON THE BIOLOGICAL EFFECTS OF RADIOACTIVITY¹

CONTENTS

<i>Recent Studies on the Biological Effects of Radioactivity: DR. A. RICHARDS</i>	287
<i>Are Recessive Characters due to Loss? PROFESSOR S. J. HOLMES</i>	300
<i>Ernst Grimsehl</i>	303
<i>Scientific Notes and News</i>	304
<i>University and Educational News</i>	307
<i>Discussion and Correspondence:—</i>	
<i>Another Reason for Saving the Genus: DR. HAROLD S. COLTON. The End of Cory's Shearwater: GERALD H. THAYER. Iron Bacteria: E. C. HARDER. A Typical Case: B. J. SPENCE</i>	307
<i>Scientific Books:—</i>	
<i>Doncaster on the Determination of Sex: PROFESSOR T. H. MORGAN. Holland's The Butterfly Guide: W. T. H.</i>	312
<i>Special Articles:—</i>	
<i>A New Disease of Germinating Wheat; Thielavia basicola as a Root Parasite of Watermelons; Bacterial Disease of Sudan Grass: DR. P. J. O'GARA. The Pendulum Key and Its Use for Recording the Beats of a Metronome: FREDERICK W. ELLIS</i>	313
<i>The Society of American Bacteriologists: DR. A. PARKER HITCHENS</i>	316

MSS. intended for publication and books, etc., intended for review should be sent to Professor J. McKeen Cattell, Garrison-on-Hudson, N. Y.

X-RAYS were discovered in 1895 and the first of the publications which placed Madame Curie, the discoverer of radium, in the position of foremost woman of science, appeared in 1898. The application of these results to biology, a matter of great importance, was brought about through accident. A knowledge of the physical properties of radio-active substances would lead one to expect that the physiological action would be acute, and that fact was accidentally proven to be true.

Becquerel carried a small tube of an impure radium preparation in his vest pocket for six hours. A few days later he observed a reddening of the epidermis of the abdomen opposite the location of the pocket in which he had placed the radium compound. It was not long before the inflammation became pronounced, and an ulcer developed which required several months for the healing.²

Giesel exposed the inner portion of his arm, for two hours, to 0.27 gram of a radium preparation, enclosed with a double celluloid capsule. After two or three weeks the skin reddened, blisters formed and the epidermis peeled just as with a burn. The growth of hair was also destroyed and did not come out anew, although a smooth white skin reformed.

Madame Curie had learned very early in her studies that radiation affects tissues, for she says in her thesis, "The action of radium upon the skin can take place across metal screens, but with weakened effect."

Thus early began the application of a

¹ Contribution from the Zoological Laboratory of the University of Texas, No. 125.

² From Baskerville, "Radium and Radioactive Substances," Williams, Brown and Earle, Philadelphia, 1905.